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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,295	07/09/2001	Tetsuya Yano	FUJR 18.797	8755

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EXAMINER

BAKER, STEPHEN M

ART UNIT	PAPER NUMBER
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2133

DATE MAILED: 12/22/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/901,295

Applicant(s)

YANO ET AL.

Examiner

Stephen M. Baker

Art Unit

2133

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the specification carries the same confusing and inconsistent language as corrected in the rejection under 35 U.S.C. 112, second paragraph, below.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 begins in an awkwardly worded and confusing manner, and apparently should begin (with corrections marked) as:

"A turbo decoder for [performing decoding using results obtained by] iteratively decoding a received signal [, and subsequently repeating decoding] a set number of times [using results of decoding obtained successively], comprising:"

Claim 3 is inconsistent, and awkwardly worded in a confusing manner and apparently should read (with corrections marked) as:

"A turbo decoder for executing a second decoding processing using results of [decoding, which are obtained by] applying a first decoding

Art Unit: 2133

processing to a first received signal[,] and also using another received signal, executing the first decoding processing using results of applying second decoding processing and also using said first received signal, executing the second decoding processing using [first] results of applying said first decoding processing and also using said other received signal, and subsequently executing the first and second decoding processing repeatedly, comprising:

one elementary decoder for executing said first and second decoding processing; a selection circuit for selecting[,] and inputting to the elementary decoder[,] a prescribed received signal depending upon whether the first or the second decoding processing is executed;

interleaving means for interleaving the [first] results of the first decoding processing;

deinterleaving means for deinterleaving the [second] results of the second decoding processing; and

changeover means for inputting the [first and second] results of first and second decoding processing to the elementary decoder via the interleaving means or the deinterleaving means."

Claim 4 is inconsistent, and awkwardly worded in a confusing manner and apparently should read (with corrections marked) as:

"A turbo decoder for receiving first data, second data obtained by encoding said first data, and third data obtained by interleaving and then encoding said first data, as signals ya, yb and yc, respectively, and executing decoding processing repeatedly using these received signals, comprising:

first and second elementary decoders for executing second decoding processing using results of [decoding, which are obtained by] applying first decoding processing to [prescribed] received signals ya[,] and yc, and [the other] also using received signal yb, and subsequently executing, repeatedly, first decoding processing using [second] results of second decoding processing and also using said received [signals ya,] signal yc, and second decoding processing using [first] results of first decoding processing and also using said [other] received signal yb;

Art Unit: 2133

an interleaving unit for interleaving the received signal *ya* and the [second] results of second decoding processing and inputting the same to the first elementary decoder [together with the received signal *yc*]; and

a deinterleaving unit for deinterleaving the [first] results of the first decoding processing and inputting the same to the second elementary decoder [together with the received signal *y_b*];

wherein results of final decoding processing are output from said second elementary decoder."

Claim 5 is inconsistent, and awkwardly worded in a confusing manner in the second clause, which apparently should read (with corrections marked) as:

"one elementary decoder for executing second decoding processing using results of [decoding, which are obtained by] applying first decoding processing to [a] received [signal] signals *ya* and *yc*, and [another] also using received signal *y_b*, and subsequently executing, repeatedly, first decoding processing using [second] results of second decoding processing and also using said received signal *yc*, and second decoding processing using [first] results of first decoding processing and also using said [other] received signal *y_b*;"

Claim 6 is inconsistent, and awkwardly worded in a confusing manner in the first Three parts, which apparently should read (with corrections marked) as:

"A turbo decoder for [performing decoding using results obtained by] iteratively decoding a received signal [, and subsequently repeating decoding] a set number of times [using results of decoding obtained successively], comprising:

first and second elementary decoders for executing second decoding processing using results of [decoding, which are obtained by] applying first decoding processing to a prescribed received signal, and also using another received signal, and subsequently executing, repeatedly, first decoding processing using [second] results of second decoding processing and also using said prescribed received signal, and second decoding processing using

Art Unit: 2133

[first] results of first decoding processing and also using said other received signal; and

a selection circuit for selecting and outputting the [first and second] results of first and second decoding processing output from said first and second elementary decoders;"

Claim 7 is inconsistent, and awkwardly worded in a confusing manner in the first two parts, which apparently should read (with corrections marked) as:

"A turbo decoder for [performing decoding using results obtained by] iteratively decoding a received signal [, and subsequently repeating decoding] a set number of times [using results of decoding obtained successively], comprising:

first and second elementary decoders for executing second decoding processing using results of [decoding, which are obtained by] applying first decoding processing to a first received signal, and also using another received signal, and subsequently executing, repeatedly, first decoding processing using [second] results of second decoding processing and also using said first received signal, and second decoding processing using [first] results of first decoding processing and also using said other received signal;"

Claim 8 is inconsistent, and awkwardly worded in a confusing manner in the first two parts, which apparently should read (with corrections marked) as:

"A turbo decoder for [performing decoding using results obtained by] iteratively decoding a received signal [, and subsequently repeating decoding] a set number of times [using results of decoding obtained successively], comprising:

one elementary decoder for executing second decoding processing using results of [decoding, which are obtained by] applying first decoding processing to a received signal, and also using another received signal, and subsequently executing, repeatedly, first decoding processing using [second] results of second decoding processing and also using said received signal, and second decoding processing using [first] results of first decoding and also using said other received signal;"

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 3 and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,122,763 to Pyndiah *et al* (hereafter Pyndiah).

Pyndiah shows a “turbo decoder” (Fig. 6) for a product code having row and column parities. The “turbo decoder” has a single “elementary decoder” (65) and a memory (67) operated as an “interleaving means” and a “deinterleaving means”, and a processor (66) serves as a “changeover means” for addressing the memory to present rows and columns of data to the elementary decoder. It is here noted that the row and column docodings both involve processing both types of parities.

Regarding claim 3, the claimed “received signal” and “other received signal” correspond to the two types of parities.

Regarding claim 5, the claimed “signals ya, yb and yc” correspond to the original data and the two types of parities.

6. Claim 4 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,996,104 to Herzberg (hereafter Herzberg).

Herzberg shows a "turbo decoder" (Fig. 6) with "first and second elementary decoders" (51, 52), an "interleaving unit" (53) and a "deinterleaving unit" with an output (62) to the "first elementary decoder" through which "results of decoding" by the "second elementary decoder" (52) are output to the "first elementary decoder" (51) for the next iteration of turbo-decoding. The claimed "signals y_a , y_b and y_c " correspond to y_k , y_{1k} and y_{2k} , respectively.

Allowable Subject Matter

7. Claims 1, 2 and 6-8 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Information Disclosure Statement

8. The information disclosure statement filed 09 July 2001 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. There is no copy of reference "10135850 – JP – FR TELECOM – 05/22/98" provided with the IDS. The examiner has therefor indicated on the IDS that the reference has not been considered.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2133

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Baker whose telephone number is (703) 305-9681. The examiner can normally be reached on Monday-Friday (11:00 AM - 7:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert DeCady can be reached on (703) 305-9595. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.



Stephen M. Baker
Primary Examiner
Art Unit 2133

smb